KIDNEY INTERNATIONAL

Volume 15, Number 1, January 1979

Official Journal of the International Society of Nephrology

Le Journal de la Société Internationale de Néphrologie

EDITORIAL

Nephrology: A look into the future. *Klaus Thurau* 1

LABORATORY INVESTIGATION

Nephron obstruction in nordihydroguaiaretic acid-induced renal cystic disease. *Andrew P. Evan and Kenneth D. Gardner, Jr.* 7

Biosynthesis of basement membrane matrix by isolated rat renal glomeruli. *J. Thomas Hjelle, Edward C. Carlson, Klaus Brendel, and Elias Meezan* 20

Hemodynamic and metabolic evidence of salt sensitivity in spontaneously hypertensive rats. *Steven G. Chrysant, Gerald M. Walsh, David C. Kem, and Edward D. Frohlich* 33

Effect of para-aminohippurate on renal transport of oxalate. *Thomas F. Knight, Harry O. Senekjian, and Edward J. Weinman* 38

Reversal of hyperparathyroidism in response to dietary phosphorus restriction in the uremic dog. *Michael A. Kaplan, Janet M. Canterbury, Jacques J. Bourgoignie, Gaston Veliz, George Gavellas, Eric Reiss, and Neal S. Bricker* 43

CLINICAL INVESTIGATION

Taste acuity in patients undergoing long-term hemodialysis. *Jean C. Burge, Hi Sung Park, Carole P. Whitlock, and Rachel A. Schemmel* 49

Effects of a portacaval or peritoneovenous shunt on renin in the hepatorenal syndrome. *Edward T. Schroeder, Gunnar H. Anderson, Jr., and Harold Smulyan* 54

Effect of indomethacin and adrenocorticotrophic hormone on renal function in man: An experimental model of inappropriate antidiuresis. *Randall M. Zusman, Joseph M. Vinci, Robert E. Bowden, David Horwitz, and Harry R. Keiser* 62

Determination of extracellular fluid volume in uremic patients by oral admimistration of radiosulfate. *Per Omvik, Robert C. Tarazi, and Emmanuel L. Bravo* 71

TECHNICAL NOTE

In vitro incubation and study of kidney glomerular epithelial cells. *Peter M. Andrews and Marguerite Stauver* 80

NEPHROLOGY FORUM

Pathogenesis and treatment of membranous nephropathy. *J. Stewart Cameron* 88

ABSTRACTS

Dutch Society of Nephrology, May 20, 1978 104

ANNOUNCEMENTS 107

KIDNEY INTERNATIONAL

Volume 15, Number 1, January 1979

Official Journal of the International Society of Nephrology

Le Journal de la Société Internationale de Néphrologie

EDITORIAL

Nephrology: A look into the future. *Klaus Thurau* 1

LABORATORY INVESTIGATION

Nephron obstruction in nordihydroguaiaretic acid-induced renal cystic disease. *Andrew P. Evan and Kenneth D. Gardner, Jr.* 7

Biosynthesis of basement membrane matrix by isolated rat renal glomeruli. *J. Thomas Hjelle, Edward C. Carlson, Klaus Brendel, and Elias Meezan* 20

Hemodynamic and metabolic evidence of salt sensitivity in spontaneously hypertensive rats. *Steven G. Chrysant, Gerald M. Walsh, David C. Kem, and Edward D. Frohlich* 33

Effect of para-aminohippurate on renal transport of oxalate. *Thomas F. Knight, Harry O. Senekjian, and Edward J. Weinman* 38

Reversal of hyperparathyroidism in response to dietary phosphorus restriction in the uremic dog. *Michael A. Kaplan, Janet M. Canterbury, Jacques J. Bourgoignie, Gaston Veliz, George Gavellas, Eric Reiss, and Neal S. Bricker* 43

CLINICAL INVESTIGATION

Taste acuity in patients undergoing long-term hemodialysis. *Jean C. Burge, Hi Sung Park, Carole P. Whitlock, and Rachel A. Schemmel* 49

Effects of a portacaval or peritoneovenous shunt on renin in the hepatorenal syndrome. *Edward T. Schroeder, Gunnar H. Anderson, Jr., and Harold Smulyan* 54

Effect of indomethacin and adrenocorticotrophic hormone on renal function in man: An experimental model of inappropriate antidiuresis. *Randall M. Zusman, Joseph M. Vinci, Robert E. Bowden, David Horwitz, and Harry R. Keiser* 62

Determination of extracellular fluid volume in uremic patients by oral admimistration of radiosulfate. *Per Omvik, Robert C. Tarazi, and Emmanuel L. Bravo* 71

TECHNICAL NOTE

In vitro incubation and study of kidney glomerular epithelial cells. *Peter M. Andrews and Marguerite Stauver* 80

NEPHROLOGY FORUM

Pathogenesis and treatment of membranous nephropathy. *J. Stewart Cameron* 88

ABSTRACTS

Dutch Society of Nephrology, May 20, 1978 104

ANNOUNCEMENTS 107

KIDNEY INTERNATIONAL

Volume 15, Number 2, February 1979

Official Journal of the International Society of Nephrology

Le Journal de la Société Internationale de Néphrologie

LABORATORY INVESTIGATION

Reactivity of glomerular afferent and efferent arterioles in renal hypertension. *Roger L. Click, William L. Joyner, and Joseph P. Gilmore* 109

Effect of hypercapnic acidosis on renal water excretion in the dog. *Arnold S. Berns, Robert J. Anderson, and Keith M. McDonald* 116

Measurement of glomerular blood flow in rabbits and rats: Erroneous findings with 15-μm microspheres. *Lise Bankir, Marie-Marcelle Trinh Trang Tan, and Jean-Pierre Grünfeld* 126

Changes of hemodynamics and glomerular ultrafiltration in renal hypertension of rats. *Gerd Schwietzer and Karl-Heinz Gertz* 134

Reticuloendothelial and mesangial function in murine immune complex glomerulonephritis. *Phillip E. Hoffsten, Aron Swerdlin, Michael Bartell, Cynthia L. Hill, Joseph Venverloh, Kurt Brotherson, and Saulo Klahr* 144

Pharmacokinetics of gentamicin in the treatment of renal infection: A therapeutic anomaly explained. *Thomas Miller, Susan Phillips, and Derek North* 160

CLINICAL INVESTIGATION

Studies on sulfate in end-stage renal disease. *Richard M. Freeman and Carl J. Richards* 167

Value of renin measurement, saralasin test, and acebutolol treatment in hypertension. *Carmen Kreft, Joël Menard, and Pierre Corvol* 176

Crescentic glomerulonephritis without immune deposits: Clinico-pathologic features. *Magda M. Stilmant, Warren K. Bolton, Benjamin C. Sturgill, Gunther W. Schmitt, and William G. Couser* . . 184

Comparison of 1 α-hydroxycholecalciferol and 25-hydroxycholecalciferol in the treatment of renal osteodystrophy: Greater effect of 25-hydroxycholecalciferol on bone mineralization. *Albert Fournier, Phillipe Bordier, Jean Gueris, Jean Luc Sebert, Pierre Marie, Christine Ferrière, Jeanine Bedrossian, and Hector F. De Luca* 196

NEPHROLOGY FORUM

Acute renal failure. *Robert W. Schrier* 205

ANNOUNCEMENTS 217

KIDNEY INTERNATIONAL

Volume 15, Number 3, March 1979

Official Journal of the International Society of Nephrology

Le Journal de la Société Internationale de Néphrologie

LABORATORY INVESTIGATION

Effects of dopamine on canine intrarenal blood flow distribution during hemorrhage. *Richard E. Neiberger and John C. Passmore* 219

Study of factors which modify the development of norepinephrine-induced acute renal failure in the dog. *Ram V. Patak, Stephen Z. Fadem, Meyer D. Lifschitz, and Jay H. Stein* 227

Effect of calcium and hydrogen ion on the fibrinolytic activity of isolated renal glomeruli from rat. *J.D. Sraer, E. Blanc, F. Delarue, A. Kanfer, R. Ardaillou, and G. Richet* 238

Renal handling of lysozyme in the rat. *Peter D. Ottosen, Folkert Bode, Kirsten M. Madsen, and Arvid B. Maunsbach* 246

Effects of fluorocitrate on renal ammoniagenesis and glutamine metabolism in the intact dog kidney. *Edmund Bourke, Gustavo Frindt, George E. Schreiner, and Harry G. Preuss* 255

Functional characterization of drug-induced experimental papillary necrosis. *Jose A.L. Arruda, Sandra Sabatini, Pradeep K. Mehta, Brijnandan Sodhi, and Robert Baranowski* 264

CLINICAL INVESTIGATION

Angiotensins I and II in renal vein blood. *Peter F. Semple, Alison M.M. Cumming, and John A. Millar* 276

Effects of hemodialysis on protein-bound calcium. *Patricia H. Duncan, John Savory, and Hillel J. Gitelman* 283

Effect of potassium chloride on plasma renin activity and plasma aldosterone during sodium restriction in normal man. *John H. Bauer and Wallace C. Gauntner* 286

Nonimmunoglobulin C3 activing factor in membranoproliferative glomerulonephritis. *Bruce G. Bartlow, Jimmy L. Roberts, and Edmund J. Lewis* 294

TECHNICAL NOTE

Binding of soluble immune complexes to human glomerular complement receptors. *Jacqueline B. Foidart, Jacques P. Salmon, François J. Berthoux, and Philippe Mahieu* 303

NEPHROLOGY FORUM

Methylmalonic acidemia. *Jordan J. Cohen* 311

ANNOUNCEMENTS 321

KIDNEY INTERNATIONAL

Volume 15, Number 4, April 1979

Official Journal of the International Society of Nephrology

Le Journal de la Société Internationale de Néphrologie

LABORATORY INVESTIGATION

Parathyroid-independent change in renal handling of phosphate in hyperthyroid rats. *Jürgen Bommer, Jean-Philippe Bonjour, Eberhard Ritz, and Herbert Fleisch* 325

Autoradiography of gentamicin uptake by the rat proximal tubule cell. *Fredric J. Silverblatt and Craig Kuehn* 335

The connecting tubule: A functional subdivision of the rabbit distal nephron segments. *Masashi Imai* 346

Hormone-sensitive adenylate cyclase along the nephron of genetically hypophosphatemic mice. *Michèle G. Brunette, Danielle Chabardes, Martine Imbert-Teboul, André Clique, Madeleine Montégut, and François Morel* 357

Effect of erythropoietin on anemia of peritoneally dialyzed anephric rats. *John C. Van Stone and Paul Max* 370

Glomerular epithelial alterations resulting from sialic acid surface coat removal. *Peter M. Andrews* 376

CLINICAL INVESTIGATION

Recurrence of dense deposits in transplanted kidneys: I. Sequential survey of the lesions. *Dominique Droz, Bernadette Nabarra, Laure-Hélène Noel, Jacques Leibowitch, and Jean Crosnier* 386

Recurrence of dense deposits in transplanted kidneys: II. Serum complement and nephritic factor profiles. *Jacques Leibowitch, Lise Halbwachs, Sophie Wattel, Marie-Hélène Gaillard, and Dominique Droz* 396

Influence of hemoperfusion on the concentration of β-methyldigoxin and hormones in plasma. *Franciszek Kokot, Jerzy Pietrek, and Marek Seredyński* 404

Hemodynamic changes during sequential ultrafiltration and dialysis. *Bertil Wehle, Hiroyuki Asaba, Jan Castenfors, Peter Fürst, Bo Gunnarsson, Stanley Shaldon, and Jonas Bergström* 411

TECHNICAL NOTE

Chronic vascular constrictions and measurements of renal function in conscious rats. *Miklos Gellai and Heinz Valtin* 419

NEPHROLOGY FORUM

The renin-angiotensin system and hypertension. *Edgar Haber* 427

ABSTRACTS

Renal Association, October 25, 1978 445

French Society of Nephrology, October 21, 1978 447

ANNOUNCEMENTS 454

KIDNEY INTERNATIONAL

Volume 15, Number 5, May 1979

Official Journal of the International Society of Nephrology

Le Journal de la Société Internationale de Néphrologie

LABORATORY INVESTIGATION

Effects of 24-hour unilateral ureteral obstruction on glomerular hemodynamics in rat kidney. *Antonio Dal Canton, Ariberto Corradi, Rodolfo Stanziale, Gianfranco Maruccio, and Luigi Migone* 457

Action of serotonin (5-hydroxytryptamine) on cyclic nucleotides in glomeruli of rat renal cortex. *Sudhir V. Shah, Thomas E. Northrup, Yvonne S. F. Hui, and Thomas P. Dousa* 463

Feedback regulation of nephron filtration rate during pharmacologic interference with the renin-angiotensin and adrenergic systems in rats. *Nicholas Stowe, Jürgen Schnermann, and Monika Hermle* 473

Medullary collecting duct function in the remnant kidney before and after volume expansion. *Douglas R. Wilson and Harald Sonnenberg* 487

Glomerular filtration dynamics in the dog during elevated plasma colloid osmotic pressure. *Charles E. Thomas, P. Darwin Bell, and L. Gabriel Navar* 502

pH-Dependence of water and solute transport in toad urinary bladder. *Christos P. Carvounis. Sherman D. Levine, and Richard M. Hays* 513

Effects of metabolic acidosis and alkalosis on sodium and calcium transport in the dog kidney. *Roger A. L. Sutton, Norman L. M. Wong, and John H. Dirks* 520

Effect of various protein diets on growth, renal function, and survival of uremic rats. *Claire Kleinknecht, Isidro Salusky, Michel Broyer, and Marie-Claire Gubler* 534

Amino acid-mediated stimulation of renal phospholipid biosynthesis after acute tubular necrosis. *F. Gary Toback, Dorothy E. Teegarden, and Leah J. Havener* 542

CLINICAL INVESTIGATION

Prognostic importance of vascular lesions in acute renal failure with microangiopathic hemolytic anemia (hemolytic-uremic syndrome): Clinicopathologic study in 20 adults. *Liliane Morel-Maroger, Alain Kanfer, Kim Solez, Jean-Daniel Sraer, and Gabriel Richet* 548

Retrospective correlation of clinical and histologic findings of 189 exchanged kidneys. *Norman Ende, James C. Pierce, Frederic Westervelt, Jr., Melville Williams, H. M. Lee, Delford L. Stickel, Duane G. Wombolt, Joseph T. Chandler, Keith H. Johnson, Charles B. Currier, Jimmy A. Light, and Agnes M. Barry* 559

TECHNICAL NOTE

Congenital unilateral hydronephrosis in the rat. *J. Friedman, J. R. Hoyer, B. McCormick, and J. E. Lewy* 567

NEPHROLOGY FORUM

Neurogenic diabetes insipidus. *Alexander Leaf* 572

ABSTRACTS

Israel Society of Nephrology, November 29, 1978 581

Swiss Society of Nephrology, December 9, 1978 582

ANNOUNCEMENTS 590

KIDNEY INTERNATIONAL

Volume 15, Number 6, June 1979

Official Journal of the International Society of Nephrology

Le Journal de la Société Internationale de Néphrologie

LABORATORY INVESTIGATION

Acetate transfer across membranes of artificial kidneys in vitro. *Kevin J. Wingert and Michael W. Weiner* 593

Mechanism of renal potassium conservation in the rat. *Stuart L. Linas, Linda N. Peterson, Robert J. Anderson, Gary A. Aisenbrey, Francis R. Simon, and Tomas Berl* 601

Localization of urinary procoagulant in the human kidney. *Michio Matsuda, Nobuo Aoki, and Akira Kawaio* 612

Urinary excretion and tissue accumulation of gentamicin and paraaminohippurate in postischemic rat kidneys. *Peter J. S. Chiu and James F. Long* 618

Microelectrode determination of pH and P_{CO_2} in rat proximal tubule after benzolamide: Evidence for hydrogen ion secretion. *Thomas D. DuBose, Jr., Leo R. Pucacco, Donald W. Seldin, Norman W. Carter, and Juha P. Kokko* 624

Microvascular and clinical effects of altered peritoneal dialysis solutions. *Frederick N. Miller, Karl D. Nolph, Patrick D. Harris, Jack Rubin, David L. Wiegman, Irving G. Joshua, Zbylut J. Twardowski, and Ahad J. Ghods* 630

Ultrastructural events in early calcium oxalate crystal formation in rats. *Michael J. Dykstra and Raymond L. Hackett* 640

CLINICAL INVESTIGATION

Disposition of intravenous potassium in anuric man: A kinetic analysis. *Richard H. Sterns, Peter U. Feig, Martin Pring, Joseph Guzzo, and Irwin Singer* 651

Beta blockade with pindolol: Differential cardiac and renal effects despite similar plasma kinetics in normal and uremic man. *Renato L. Galeazzi, Matthias Gugger, and Peter Weidmann* 661

Dissociation of the diurnal variation of aldosterone and cortisol in anephric subjects. *C. Robert Cooke, Paul K. Whelton, Michael A. Moore, Richard A. Caputo, Turner Bledsoe, and W. Gordon Walker* 669

Quantitative indices of clinical uremia. *Paul E. Teschan, H. Earl Ginn, John R. Bourne, James W. Ward, Baruch Hamel, Jum C. Nunnally, Mario Musso, and William K. Vaughn* 676

NEPHROLOGY FORUM

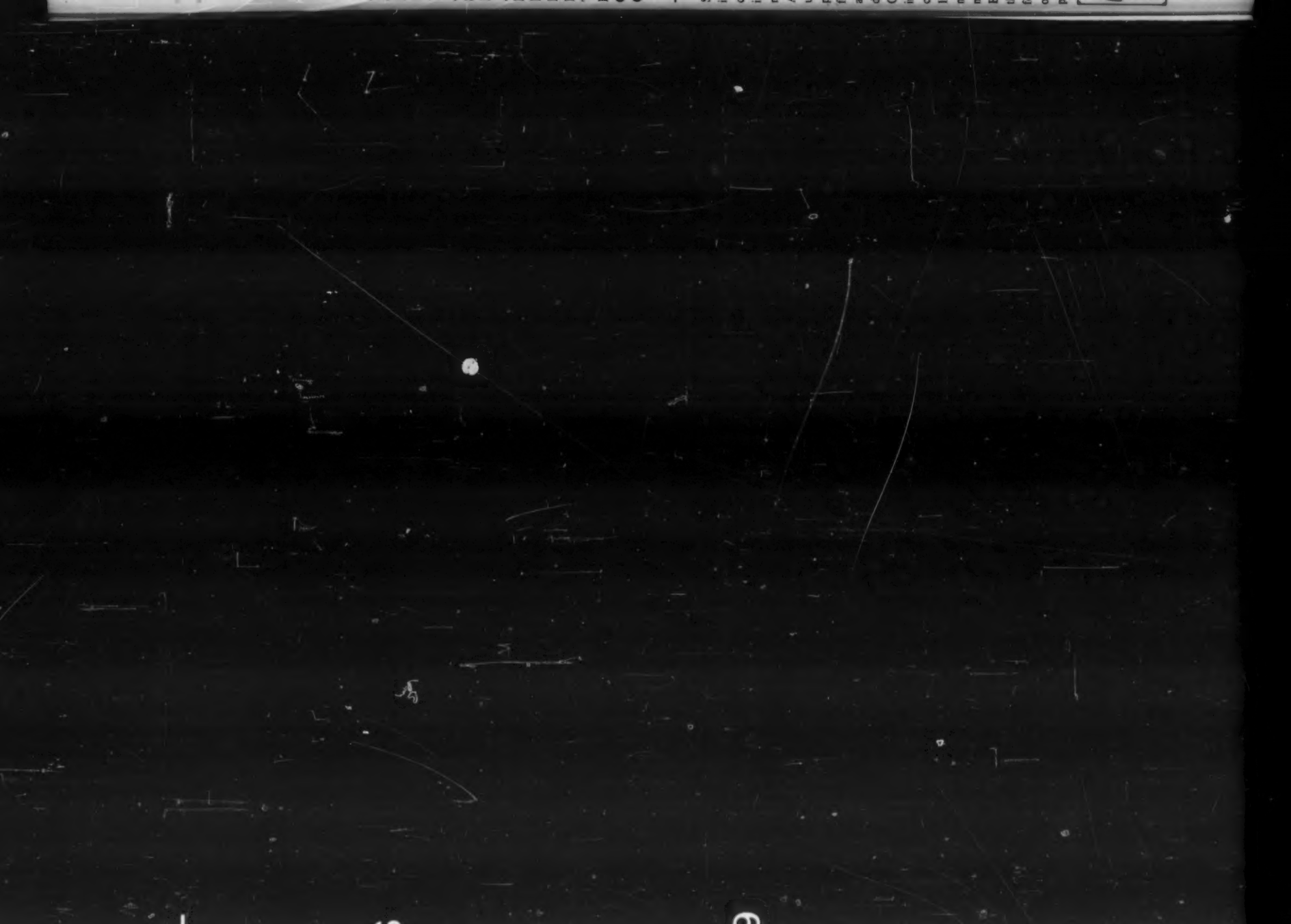
Chronic peritoneal dialysis in a patient with diabetes mellitus and heart disease. *Karl D. Nolph* 698

ABSTRACTS

Canadian Society of Nephrology, February 6, 1979 709

ANNOUNCEMENTS 716

INDEXES 721



Kidney International

Editor
Roscoe R. Robinson, Durham

Assistant Editors
Claude Amiel, Paris
Vincent W. Dennis, Durham

Editorial Board
Vittorio E. Andreucci, Naples
A. W. Asscher, Cardiff
Peter Balint, Budapest
Jonas Bergstrom, Stockholm
Robert W. Berliner, New Haven
Roland C. Blantz, San Diego
Adalbert Bohle, Tubingen
Jean-Philippe Bonjour, Berne
Jacques Bourgoignie, Miami
Barry M. Brenner, Boston
Neal S. Bricker, Los Angeles
Hans R. Brunner, Lausanne
J. S. Cameron, London
Serge Carriere, Montreal
Hugh E. deWardener, London
Jean Dormont, Paris
R. Dzurik, Bratislava
Lawrence E. Earley, Philadelphia
Bryan T. Emmerson, Brisbane
Marilyn G. Farquhar, New Haven
Thomas F. Ferris, Minneapolis
Eli A. Friedman, Brooklyn
Gerhard Giebisch, New Haven
Carmelo Giordano, Naples
Richard J. Glassock, Los Angeles
Jared J. Grantham, Kansas City
J. P. Grünfeld, Paris
Robert A. Gutman, Durham
Renée Habib, Paris
Jean Hamburger, Paris
Lee W. Henderson, San Diego
Robert H. Heptinstall, Baltimore
Norman K. Hollenberg, Boston
Malcolm A. Holliday, San Francisco
Nishio Honda, Hamamatsu
Rex L. Jamison, Stanford
Colin I. Johnston, Melbourne
Arthur C. Kennedy, Glasgow
D. N. S. Kerr, Newcastle-upon-Tyne
Fredrik Kiil, Oslo
Priscilla Kincaid-Smith, Melbourne
Saulo Klahr, St. Louis
Horst Klinkmann, Rostock
Franklyn G. Knox, Rochester, Minn.
Juha P. Kokko, Dallas
Franciszek Kokot, Katowice
W. Kriz, Heidelberg
Neil A. Kurtzman, Chicago
Paul H. Lambert, Geneva
Peter J. Little, Christchurch
Guy Lemieux, Montreal
John F. Maher, Farmington
Manuel Martinez-Maldonado, San Juan
Shaul G. Massry, Los Angeles
Joel Menard, Paris
Alfred F. Michael, Minneapolis
Paul Michielsen, Louvain
John F. Moorhead, London
François Morel, Paris
Liliane Morel-Maroger, Paris
L. Gabriel Navar, Birmingham
Alphonse Nizet, Liege
Karl D. Nolph, Columbia
Jack Orloff, Bethesda
Tadeusz Orlowski, Warsaw
D. Keith Peters, London
Georges Peters, Lausanne
Jaime Borrero Ramirez, Medellin
Gabriel Richet, Paris
George E. Schreiner, Washington, D.C.
Robert W. Schrier, Denver
Donald W. Seldin, Dallas
Fred L. Shapiro, Minneapolis
David P. Simpson, Madison
Jay H. Stein, San Antonio
Wadi N. Suki, Houston
Richard L. Tannen, Ann Arbor
Klaus Thurau, Munich
C. Craig Tisher, Durham
Bruno Truniger, Lucerne
Karl J. Ullrich, Frankfurt
Heinz Valtin, Hanover
Pierre Verroust, Paris
Herman Villarreal, Mexico, D.F.
W. Gordon Walker, Baltimore
Mackenzie Walser, Baltimore
Clark D. West, Cincinnati
Guillermo Whittembury, Caracas
Curtis B. Wilson, La Jolla
Douglas R. Wilson, Toronto

Subscription price for 1979 Vols. 15 and 16 (6 issues each), published monthly, is $144.00 including postage. Subscription to the journal is included in the membership dues of the International Society of Nephrology. In North America a special rate is available for individual subscriptions for personal use only. Prepayment is required. Prices for Vols. 1-14 and for 16 and 35 mm microfilm and microfiche are available on request. Address correspondence about subscriptions to the publisher. Change of address requires six weeks. Please include both old and new addresses (with zip codes) and a recent mailing label.

It is a fundamental condition that submitted manuscripts have not been published and will not be simultaneously submitted elsewhere. By submitting a manuscript the authors agree that the copyright for their article is transferred to the International Society of Nephrology if and when the article is accepted for publication. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature, and translations. Copyright is not claimed for material prepared by an officer or employee of the United States Government as a part of that person's official duties.

The Article-Fee Code on the first page of an article in this journal indicates the copyright owner's consent that copies may be made for personal or internal use, provided the stated fee for copying beyond that permitted by Section 107 and 108 of the United States Copyright Law is paid through the Copyright Clearance Center, Inc.

If a code does not appear, copies of the article beyond that permitted by Section 107 or 108 of the United States Copyright Law may be made without charge provided permission is obtained from the publisher.

The copyright owner's consent does not extend to copying for general distribution, for promotion, for creating new works, or for resale. Specific written permission must be obtained from the publisher for such copying.

The use in this journal of registered trade names, trademarks, etc. without special acknowledgment does not imply that such names, as defined by the relevant protection laws, may be regarded as unprotected and thus free for general use.

Advertising representatives: Steven K. Herlitz, Inc., 850 Third Avenue, New York, N.Y. 10022, U.S.A., and L. Siegel, E. Lückermann, D-1000 Berlin 15, Kurfürstendamm 237, Germany.

Printed in the United States. Second-class postage paid at New York, New York and additional mailing offices.

Springer-Verlag

New York Inc., 175 Fifth Avenue, New York, NY 10010, USA
Telephone (212) 477-8200, Telex 232 235

Postfach 105280, D-6900 Heidelberg 1, FRG
Telephone (0 62 21) 4 87-1, Telex 04-61 690

Heidelberger Platz 3, D-1000 Berlin 33, Germany
Telephone (0 30) 82 20 01, Telex 01-83 319